Buying a Computer

If you've never owned a computer and now face purchasing one for the first time, deciding what to get can be a somewhat daunting experience. There are lots of technical terms to figure out and various pieces of *hardware* (the physical pieces of your computer such as the monitor and keyboard) and *software* (the brains of the computer that help you create documents and play games, for example) that you need to understand.

In this chapter, I introduce you to the world of activities your new computer makes available to you, and I provide the information you need to choose just the right computer for you. Remember as you read through this chapter that figuring out what you want to do with your computer is an important step in determining which computer you should buy. You have to consider how much money you want to spend, how you'll connect your computer to the Internet, and how much power and performance you'll require from your computer.

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Understand All You Can Do with Computers

In just a couple of decades, computers have moved from being expensive behemoths that lived in corporate basements to being personal productivity and entertainment tools. They have empowered people to connect around the world in unprecedented ways, and they've made common tasks much easier to handle.

The following list walks you through some of the things your computer will enable you to do. Depending on what activities are important to you, you can make a more informed purchasing choice.

- **Keep in touch with friends and family.** The Internet has made it possible to communicate with other people via e-mail; share video images using webcams (tiny, inexpensive video cameras that capture and send your image to another computer); and make phone calls using a technology called VoIP (Voice over Internet Phone), which uses your computer and Internet connection to place calls. You can also chat with others by typing messages and sending them through your computer using a technology called instant messaging. These messages are exchanged in real time, so that you and your grandchild, for example, can see and reply to text immediately. Part III of this book explains these topics in more detail.

- **Research any topic from the comfort of your home.** Online, you can find many reputable Web sites that help you get information on anything from expert medical advice to the best travel deals. You can read news from around the corner or around the world. You can visit government Web sites to find out information about your taxes, Social Security, and more, or even go to entertainment sites to look up your local television listings.

- **Create greeting cards, letters, or home inventories.** Whether you're organizing your holiday card list or figuring out a monthly budget, computer programs can help. For example, **Figure 1-1** shows a graph that the Excel program created from data in a spreadsheet.

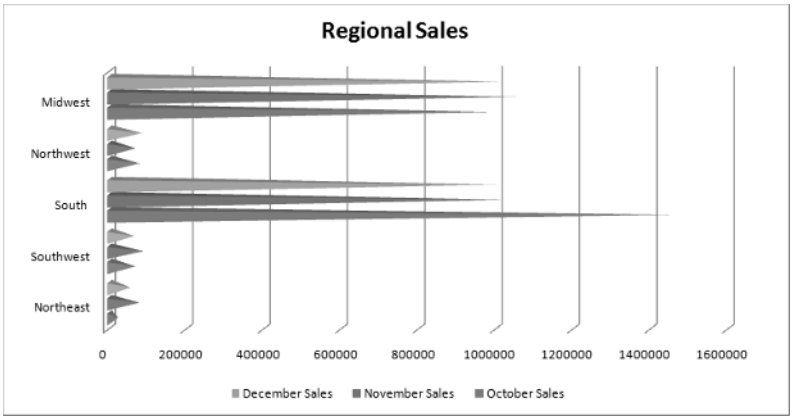

Figure 1-1

- **Pursue hobbies such as genealogy or sports.** You can research your favorite teams online (see **Figure 1-2**) or connect with people who have the same interests. The online world is full of special interest chat groups where you can discuss your interests with others.

- **Play interactive games with others over the Internet.** You can play everything from shuffleboard to poker or action games in virtual worlds.

- **Share and create photos, drawings, and videos.** If you have a digital camera, you can transfer photos to your computer (called *uploading*) or copy photos off the Internet and share them in e-mails or use them to create your own greeting cards. If you're artistically inclined, you can create digital drawings. Many popular Web sites make sharing digital movies easy, too.

If you have a digital video camera and editing software, you can use editing tools to make a movie and share it with others. Steven Spielberg, look out!

- **Shop online and compare products easily, day or night.** You can shop for anything from a garden shed to travel deals or a new camera. Using handy online features, you can easily compare prices from several stores or read customer product reviews. Web sites such as `www.nextag.com` list product prices from a variety of vendors on one Web page, so you can find the best deals. Beyond the convenience, all this information can help you save money.

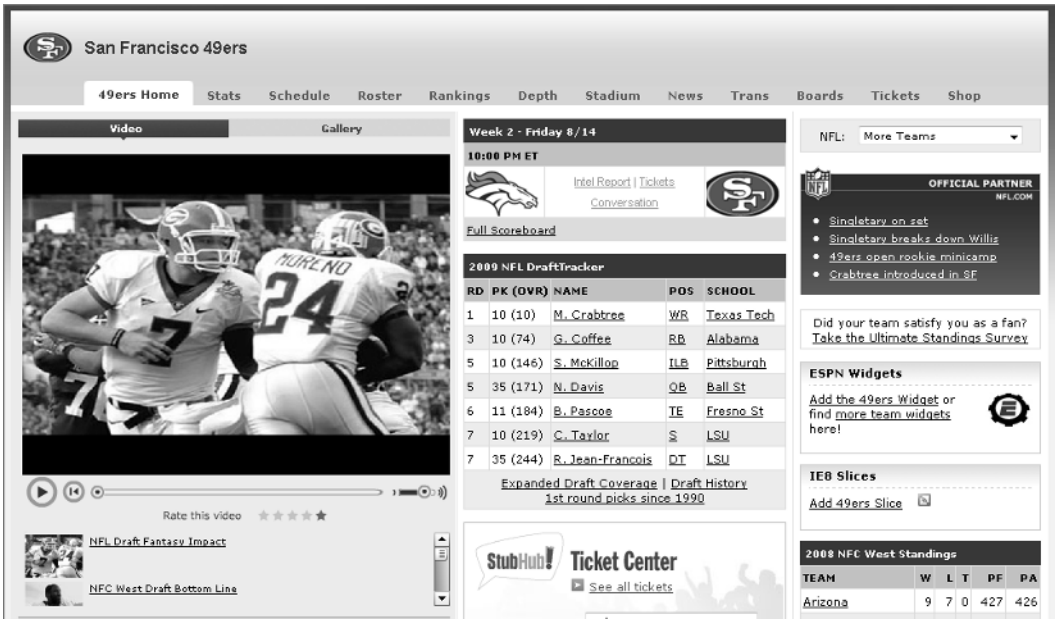

Figure 1-2

- **Handle your financial life.** You can do your banking or investing online and get up-to-the-minute data about your bank account, credit card balances, and investments.

Understand Hardware and Software

Your computing experience is made up of hardware and software. The hardware is all the tangible computer equipment, such as the keyboard and mouse, and the software is what makes the hardware work or lets you get things done, such as writing documents with Microsoft Word or playing a Solitaire game. Think of the hardware as being like your television set and the shows that you watch as being like the software.

The hardware on your computer consists of

- **A central processing unit (CPU),** which is the very small, very high-tech semiconductor *chip* that acts as the brains of your computer. The CPU is stored in a computer tower along with the other nuts and bolts of your computer.

- **A monitor,** which displays images on its screen such as the Microsoft Windows 7 desktop or a document in a software program.

- **A keyboard,** which is similar to a typewriter keyboard. In addition to typing words, you can use a keyboard to give the computer commands.

- **A mouse,** which you also use to give your computer commands, but this little device is more tactile. You move the mouse around your desk with your hand, which moves a pointer around on-screen. Using this pointer, you can click on items like buttons that cause an action, or click on the screen and drag the mouse to select text or an object to perform an action on it (such as deleting it or making the text bold).

- **Peripherals,** such as a printer, speakers, webcams, and microphones. These may or may not come with your computer when you buy it, but your computer does come with slots (called *ports*) where you plug in various peripherals.

Software (also known as *programs* or *applications*) is installed on your computer hard drive, which resides in the computer casing (either in your laptop or, for a desktop computer, in the computer tower). Here are a few basics about software:

- **You use software to get your work done, run entertainment programs, and browse the Internet.** For example, Quicken is a financial management program you can use to balance your checkbook or keep track of your home inventory for insurance purposes.

- **Some programs come preinstalled on your computer; you can buy and install other programs as you need them.** For example, there is always an operating system on a computer, because it runs all the other programs. Also some programs are included with your operating system, such as Solitaire, an electronic version of the old favorite card game, which comes with Windows 7. Skype, a program that enables you to make online phone calls using your computer, is a popular program that you can find on the Internet and install on your computer yourself.

- **You can uninstall programs you no longer need.** Uninstalling unwanted programs helps to free up some space on your computer, which helps it perform better.

- **Some software programs called *utilities* exist to keep your computer in shape.** An antivirus program is an example of a utility used to spot and erase computer viruses from your system. Your *operating system* (such as Windows 7 Home Premium, which you hear more about in the task, "Choose a Version of Windows"), also includes some utilities, such as the Windows Defender program. Windows Defender

protects your computer from unwanted intrusion by malicious programs called *spyware.* See Part IV for details about using utilities.

Explore Types of Computers

Just as there are many styles of shoes or mobile phones, you can find several styles of computers. Some are small and portable, some use different operating systems to make everything run, and some excel at certain functions such as working with graphics or playing games. This section explains some features you'll need to consider when choosing the type of computer you should buy.

Operating System: Windows is probably the most common computer operating system, and this book mainly focuses on its features. However, Macintosh computers from Apple are also popular. These use Apple-specific software; however, many software applications written for Windows are also available for the Macintosh, and you can also set up your Mac to run the Windows operating system, which gives you the best of both worlds. Some computers run on a freely available operating system called Linux, which has similar functionality to Windows.

Computer Design: Two types of computers you can buy are a laptop and a desktop. Here's the difference:

- A *laptop* is portable, weighing anywhere from two to eight pounds (the lowest weight ones are called *netbooks*). The monitor, keyboard, and mouse are built into the laptop. (Note that if the monitor is damaged, you have to pay quite a bit to have it repaired or hook it up to an external monitor.) **Figure 1-3** shows an example of a laptop, which is sometimes called a *notebook* computer. Choose a laptop if you want to use your computer mainly away from home or you have little space in your home for a larger computer.

Figure 1-3

➠ *Desktop* models typically have a large tower, such as the tower shown in **Figure 1-4**, that contains the computer's central processing unit (called a CPU). The keyboard, mouse, and monitor are separate. Desktop computers take up more space than laptops and are not portable, but they're usually less expensive.

Figure 1-4

Pictures and Sound: If you work with a lot of *visual elements* (for example, photographs, home movies, or computer games), consider a computer that has a better graphics card. Games often involve sound, so a high-end sound card may also be useful. Computers with more

sophisticated sound and image capabilities are often referred to as *gaming* or *multimedia* models and they typically require a larger hard disk to handle these functions. Because the capabilities of these cards change all the time, I don't give you the specifications for what's high end; instead, ask the person you're buying the computer from whether the system can handle sophisticated sound and graphics.

Choose a Version of Windows

As mentioned in the previous task, choosing your computer's *operating system* (software that runs all the programs and organizes data on your computer) will be one of your first decisions. This book focuses on computers running the current version of Windows, which is called Windows 7. Windows 7 comes in three different versions for home and business users. If you consider yourself primarily a home user, you should consider the Home Premium version of Windows 7:

- **Home Premium** includes entertainment tools such as Windows Media Center for playing music and movies. If you want to do more than look at photos, you'll find that this version of Windows 7 is good at working with design and image manipulation programs such as Photoshop. Also, if you choose a laptop, be aware that Home Premium includes great features for managing the battery power of your computer.

- **Windows 7 Professional** is great for small businesses or if you work from home. This version of Windows has ultimate security features.

- **Windows 7 Ultimate** provides everything that Professional provides, plus a few more bells and whistles for protecting your computer from thieves with BitLocker and handling languages other than English.

Before Windows 7, there was Windows Vista, and before that, Windows XP. Many people still use computers that run Vista or XP and get along just fine.

However, Windows XP doesn't come with as many security tools. If you decide to use Windows XP, find a friend or family member who's knowledgeable about computers and can help you use XP features or other software programs that will help keep your computer secure. Note that if you're using Vista or XP, some of the steps for common tasks are different than they are if you use Windows 7; however, you can still use this book to find out about many computer basics.

Choose a Price Range

You can buy a computer for anywhere from $299 to $5,000 or more, depending on your budget and computing needs. You may start with a base model, but extras such as a larger monitor or higher-end graphics card can soon add hundreds to the base price.

You can shop in a retail store for a computer or shop online using a friend's computer (and perhaps get his or her help if you're brand new to using a computer). Consider researching different models and prices online and using that information to negotiate your purchase in the store if you prefer shopping at the mall. Be aware, however, that most retail stores have a small selection compared to all you can find online on a Web site such as Dell.com.

Buying a computer can be confusing, but here are some guidelines to help you find a computer at the price that's right for you:

- **Determine how often you will use your computer.** If you'll be working on it eight hours a day running a home business, you will need a better quality computer to withstand the use. If you turn on the computer once or twice a week, it doesn't have to be the priciest model in the shop.

- **Consider the features that you need. Do you want (or have room for) a 20-inch monitor?** Do you need the computer to run very fast and run several programs at once, or do you need to store tons of

data? (Computer speed and storage are covered later in this chapter.) Understand what you need before you buy. Each feature or upgrade adds dollars to your computer's price.

- **Shop wisely.** If you walk from store to store or do your shopping online, you'll find that the price for the same computer model can vary by hundreds of dollars at different stores. See if your memberships in organizations such as AAA, AARP, or Costco make you eligible for better deals. Consider shipping costs if you buy online, and keep in mind that many stores charge a restocking fee if you return a computer you aren't happy with. Some stores offer only a short time period, such as 14 days, in which you can return a computer.

- **Buying used or refurbished is an option, though new computers have reached such a low price point that this may not save you much.** In addition, technology gets out of date so quickly, you might be disappointed buying an older model. Instead, consider going to a company that produces customized, non-name-brand computers at lower prices — perhaps even your local computer repair shop. You might be surprised at the bargains you can find (but make sure you're dealing with reputable people before buying).

- **Online auctions are a source of new or slightly used computers at a low price.** However, be sure you're dealing with a reputable store or person by checking reviews others have posted about them or contacting the Better Business Bureau. Be careful not to pay by check (this gives a complete stranger your bank account number); instead use the auction site's tools to have a third party handle the money until the goods are delivered in the condition promised.

Check the auction site for guidance on staying safe when buying auctioned goods.

Some Web sites, such as Epinions.com, allow you to compare several models of computers side by side, and others, such as Nextag.com, allow you to compare prices on a particular model from multiple stores.

Select a Monitor

Monitors are the window to your computer's contents. If you're buying a desktop computer, it may come with a monitor that suits your purposes, or you might upgrade to a better monitor. A good monitor can make your computing time easier on your eyes. The crisper the image, the more impressive your vacation photos or that highly visual golf game will be.

Consider these factors when choosing a monitor:

- **Size:** Monitors for the average computer user come in all sizes, from tiny 10-inch screens on smaller laptops to 22-inch desktop models. Larger screens are typically more expensive. Although a larger monitor can take up more space side to side and top to bottom, many don't have a bigger *footprint* (that is, how much space their base takes up on your desk) than a smaller monitor.

- **Image quality:** The image quality can vary greatly. You will see terms such as LCD (liquid crystal display; also referred to as *flat panels*), CRT (cathode ray tube), flat screen, brightness, and resolution. Today, CRT screens, though still available, are old technology.

  Look for an LCD monitor, preferably with a flat screen (see **Figure 1-5**) to ease glare.

An LCD monitor with a flat screen
Figure 1-5

- **Resolution:** A monitor's resolution represents the number of pixels that form the images you see on the screen. The higher the resolution, the crisper the image. You should look for a monitor that can provide at least a 1,024 x 768 pixel resolution.

- **Cost:** The least expensive monitor might be the one that comes with a computer package, and many of these are perfectly adequate. You can often upgrade your monitor when you buy if you customize a system from a company such as Dell or Gateway. Monitors purchased separately from a computer can range from around $100 to $3,000 or more. Check out monitors in person to really see whether their image quality and size are worth the money.

Choose an Optical Drive

You've probably used or seen a DVD used to play movies at home. Computers can also read data from or play movies or music from DVDs. Your computer is likely to come with at least one *optical drive*,

which is a small drawer that pops out, allowing you to place a DVD in a tray, push the drawer back into the computer, and use the contents of the DVD. If you buy a software program, it will come on a CD or DVD, so you also need this drive to install software.

When you buy a computer, keep these things in mind about optical drives:

- **DVDs versus CDs:** DVDs have virtually replaced CDs as the computer storage medium of choice, but you might still find a CD floating around with music or data on it that you need to read. For that reason, you might want a DVD/CD combo drive.

- **DVD drives:** DVD drives are rated as Read (R) or Write (W). A readable DVD drive only allows you to look at data on it, but not save data to it. A writeable DVD drive allows you to save data (or images, or music) to it. A RW, or read-writeable, DVD drive lets you both read and write to DVDs.

- **DVD standards:** In the earliest days of DVDs, there were two different standards, + and –. Some drives could play DVDs formatted + but not those formatted –, for example. Today, you should look for a DVD drive that is specified as +/– so it can deal with any DVD you throw at it.

One of the first things you should do when you buy a computer, if it doesn't come with recovery disks, is to burn recovery disks that you can use if you have to restore the computer to it's factory settings. You might need to do this, for example, if a virus corrupts your settings. Your computer should offer this as an option when you first start it, but if it doesn't, check your computer's help system or the manufacturer's Web site to find out how to burn recovery disks.

Understand Processor Speed and Memory

You computer contains a processor contained on a computer chip. The speed at which your computer runs programs or completes tasks is determined in great measure by your computer's processor speed. Processor speed is measured in *gigahertz* (GHz). The higher this measurement, the faster the processor. I won't quote the speed you should look for because these chips are constantly getting smaller and contain more and more power. However, when you shop, know that the higher numbers give the best performance and factor that into your decision depending on your needs.

In addition, computers have a certain amount of storage capacity for running programs and storing data. You'll see specifications for RAM and hard drive memory when you go computer shopping. Again, the specific numbers will change, so the guideline is to look for higher RAM numbers if you feel you need more storage capacity.

- **RAM is the memory needed to simply access and run programs.** RAM chips come in different types, including DRAM, SDRAM, and the latest version, DDR2. Look for a minimum of 1 gigabyte (GB) of RAM for everyday computing.

- **RAM chips are rated by *access speed*, which relates to how quickly a request for data from your system can be completed.** You might see RAM speed measured in megahertz (MHz). Today, 800 MHz could be considered good access speed.

- **Your hard drive has a certain capacity for data storage measured in gigabytes (GB).** These days you should probably look for a minimum of a 160GB hard drive, but hard drives can come with a range of huge capacities, with the largest being measured in terabytes (TB, measured in thousands of gigabytes).

- **Your computer will require some RAM to run the operating system.** Windows 7 requires 1GB of main memory and 16GB of hard drive space.

Determine How You'll Connect to the Internet

You have to decide how you'll connect to the Internet. You can use a dial-up connection over a standard phone line or pay a fee to get a broadband connection such as DSL. (Check with AARP to find out if they offer discounted connections in your area.) However, if you want a wireless connection that works like your cell phone to pick up a signal in certain *hotspots*, you have to be sure to buy a computer with wireless capabilities. Here's how these work:

- **Dial-up:** If you intend to use a dial-up connection (that is, connect over your phone line), your computer has to have a dial-up modem either built in or in an external model. Dial-up connections can be very slow, and while you're using them, you can't use your phone to make or receive calls. I'd discourage you from using dial-up unless you absolutely have to.

- **Wireless:** Wireless connections require that you have a computer equipped with wireless capability. You can access the Internet wirelessly when you're near a wireless *hotspot* (a place that offers wireless service), and many hotspots are appearing at public places such as hotels, airports, and restaurants. You can also subscribe to a Wireless Wide Area Network (WWAN) service from a mobile phone provider to tap into its connection. Check the computer model you want to buy to be sure it is wireless enabled. There are various techy standards for wireless such as 802.11a, b, or g. The very latest standard to look for is 802.11n, which delivers better wireless performance.

- **Broadband:** Broadband connections can be DSL (digital subscriber line) or cable modem. In both cases, you pay a fee to a provider, which might be your phone company or cable company. DSL works over your phone line but doesn't prohibit you from using the phone when you're online. Cable runs over your cable TV line and is a bit faster than DSL, though connections can be less dependable. Both are considered always-on connections, meaning that you don't have to wait to dial up to a phone connection or connect to a wireless network — you're always connected.

See Chapter 16 for more about setting up your Internet connection.

Buy a Customized Computer

You can buy prepackaged computer systems online or in an electronics store. An alternative is to buy a customized computer. Companies such as Dell (see **Figure 1-6**) and Gateway offer customized computer systems. When you buy the computer, you can pick and choose various features, and the provider will build the system for you.

Figure 1-6

Here are some of the variables you'll be asked about when you purchase a customized system, many of which are discussed in this chapter:

- Type and speed of processor
- Amount of RAM or hard drive capacity
- Installed software, such as a productivity suite like Microsoft Office or Microsoft Works, or a premium version of an operating system
- More sophisticated graphics or sound cards
- Peripherals such as a printer or an upgrade to a wireless mouse or keyboard
- Larger or higher-end monitor
- Wireless capability
- Warranty and technical support

These all add to your final price, so be sure you need an option before you select it. Most of these companies provide explanations of each item to help you decide.